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| 10/698,376 | 11/03/2003 | Yasuomi Ooki | 8028-1044 | 1130 |

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YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

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| EXAMINER |
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DEAN, RAYMOND S

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| ART UNIT | PAPER NUMBER |
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2618

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|-----------------------------|--|
| Office Action Summary | Application No. 10/698,376 | Applicant(s) OOKI ET AL. | |
| | Examiner Raymond S. Dean | Art Unit 2618 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>1103</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 – 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Banaei (US 2004/0203751).

Regarding Claim 1, Banaei teaches a method of wireless LAN (Local Area Network) communication, comprising the steps of: communicating data between a wireless LAN equipment for each of service providers to be connected to an Internet and a user terminal for each of users (Sections: 0037 lines 8 – 12, 0041 – 0042, 0043 lines 1 – 6, 0044), wherein said wireless LAN equipment is managed by any one of the service providers and is shared by the service providers (Section 0044, the wireless LAN equipment of the visited service provider is managed by the visited service provider, which is any one of the plurality of service providers, the visited service provider shares it's wireless LAN equipment by allowing a user contracted with the home service provider to use the wireless LAN equipment of said visited service

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provider); collecting data of a communication amount and communication time of said user terminal of the each of users, when said user terminal communicates with said wireless LAN equipment using wireless LAN communication (Sections 0044 – 0045); and calculating data of a charge on usage of said wireless LAN equipment in accordance with the collected data, whereby the service provider to be contracted with the user of said user terminal pays the charge to the service provider for managing said wireless LAN equipment (Section 0044).

Regarding Claim 2, Banaei teaches a method of wireless LAN (Local Area Network) communication, comprising the steps of: communicating data between a wireless LAN equipment for each of service providers to be connected to an Internet and a user terminal for each of users (Sections: 0037 lines 8 – 12, 0041 – 0042, 0043 lines 1 – 6, 0044), wherein said wireless LAN equipment is pre-sited in common space managed by a manager and is shared by the service providers (Section 0044, the wireless LAN equipment of the visited service provider will be sited in a particular area and managed by the visited service provider, the visited service provider shares it's wireless LAN equipment by allowing a user contracted with the home service provider to use the wireless LAN equipment of said visited service provider); collecting data of a communication amount and communication time of said user terminal of the each of users, when said user terminal communicates with said wireless LAN equipment using wireless LAN communication (Sections 0044 – 0045); and calculating data of a charge on usage of said wireless LAN equipment in accordance with the collected data,

whereby the service provider to be contracted with the user of said user terminal pays the charge to the manager (Section 0044).

Regarding Claim 3, Banaei teaches a method of wireless LAN (Local Area Network) communication, comprising the steps of: communicating data between a wireless LAN equipment for each of service providers to be connected to an Internet and a user terminal used for users (Sections: 0037 lines 8 – 12, 0041 – 0042, 0043 lines 1 – 6, 0044), wherein said wireless LAN equipment is managed by any one of the service providers and is shared by the service providers (Section 0044, the wireless LAN equipment of the visited service provider is managed by the visited service provider, which is any one of the plurality of service providers, the visited service provider shares it's wireless LAN equipment by allowing a user contracted with the home service provider to use the wireless LAN equipment of said visited service provider); enabling said user terminal to select the wireless LAN equipment with high communication speed (Section 0001 lines 5 – 8, 802.11 provides high speed data); exchanging user's information among the service providers, when said user terminal selects said wireless LAN equipment (Section 0044, user authentication and authorization comprises exchange of user information) and the selected wireless LAN equipment is managed by the service provider not to be contracted the user of said user terminal (Sections: 0037 lines 8 – 12, 0041 – 0042); collecting data of a communication amount and communication time of said user terminal of the each of users, when said user terminal communicates with said wireless LAN equipment using wireless LAN communication (Sections 0044 – 0045); and calculating data of a charge

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on usage of said wireless LAN equipment in accordance with said collected data and said exchanged user information, whereby the service provider to be contracted with the user of said user terminal pays said charge to the service provider for managing said wireless LAN equipment (Section 0044).

Regarding Claim 4, Banaei teaches a system for wireless LAN (Local Area Network) communication, comprising: means for communicating data between a wireless LAN equipment for each of service providers to be connected to an Internet and a user terminal for each of users (Sections: 0037 lines 8 – 12, 0041 – 0042, 0043 lines 1 – 6, 0044), wherein said wireless LAN equipment is managed by any one of the service providers and is shared by the service providers (Section 0044, the wireless LAN equipment of the visited service provider is managed by the visited service provider, which is any one of the plurality of service providers, the visited service provider shares it's wireless LAN equipment by allowing a user contracted with the home service provider to use the wireless LAN equipment of said visited service provider); means for collecting data of a communication amount and communication time of said user terminal of the each of users, when said user terminal communicates with said wireless LAN equipment using wireless LAN communication (Sections 0044 – 0045); and means for calculating data of a charge on usage of said wireless LAN equipment in accordance with the collected data, whereby the service provider to be contracted with the user of said user terminal pays the charge to the service provider for managing said wireless LAN equipment (Section 0044).

Regarding Claim 5, Banaei teaches a system for wireless LAN (Local Area Network) communication, comprising: means for communicating data between a wireless LAN equipment for each of service providers to be connected to an Internet and a user terminal for each of users (Sections: 0037 lines 8 – 12, 0041 – 0042, 0043 lines 1 – 6, 0044), wherein said wireless LAN equipment is pre-sited in common space managed by a manager and is shared by the service providers (Section 0044, the wireless LAN equipment of the visited service provider will be sited in a particular area and managed by the visited service provider, the visited service provider shares it's wireless LAN equipment by allowing a user contracted with the home service provider to use the wireless LAN equipment of said visited service provider); means for collecting data of a communication amount and communication time of said user terminal of the each of users, when said user terminal communicates with said wireless LAN equipment using wireless LAN communication (Sections 0044 – 0045); and means for calculating data of a charge on usage of said wireless LAN equipment in accordance with the collected data, whereby the service provider to be contracted with the user of said user terminal pays the charge to the manager (Section 0044).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Banaei (US 2004/0203751) in view of Deshpande et al. (US 2002/0176579).

Regarding Claim 6, Banaei teaches a system for wireless LAN (Local Area Network) communication, comprising: a wireless LAN equipment for each of service providers to be connected to an Internet (Sections: 0037 lines 8 – 12, 0041 – 0042, 0043 lines 1 – 6, 0044), said wireless LAN equipment being managed by any one of the service providers and being shared by the service providers (Section 0044, the wireless LAN equipment of the visited service provider is managed by the visited service provider, which is any one of the plurality of service providers, the visited service provider shares it's wireless LAN equipment by allowing a user contracted with the home service provider to use the wireless LAN equipment of said visited service provider); a user terminal for said each of users to be communicated with said wireless LAN equipment using wireless LAN communication (Sections: 0037 lines 8 – 12, 0041 – 0042, 0043 lines 1 – 6, 0044); exchanging user's information among the service providers (Section 0044), wherein said user terminal comprises selecting means for selecting said wireless LAN equipment with high communication speed (Section 0001 lines 5 – 8, 802.11 provides high speed data), and said wireless LAN equipment comprises a service management server for managing user's information of the each of users, and for transmitting said user information, when said selecting means selects said wireless LAN equipment managed by the service provider not to be contracted with the user of said user terminal (Sections 0044, 0037 lines 8 – 12, 0041 – 0042,

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user authentication and authorization comprises exchange of user information), means for collecting data of a communication amount and communication time of said user terminal of the each of users, when said user terminal communicates with said wireless LAN equipment (Sections 0044 – 0045), and means for calculating data of a charge on usage of said wireless LAN equipment in accordance with said collected data, whereby the service provider to be contracted with the user of said user terminal pays said charge to the service provider for managing said wireless LAN equipment (Section 0044).

Banaei does not teach an information exchange server.

Deshpande, which is in the same field of endeavor, teaches an information exchange server (Section 0040 lines 5 – 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the WLAN system of Banaei with the information exchange server of Deshpande for the purpose of determining the appropriate information to be sent the end-user as taught by Deshpande.

Regarding Claim 10, Banaei in view of Deshpande teaches all of the claimed limitations recited in Claim 6. Banaei further teaches wherein said wireless LAN equipment is a wireless LAN base station (Figure 2, access points comprise base stations).

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Banaei (US 2004/0203751) in view of Deshpande et al. (US 2002/0176579), as applied to Claim 6 above, and further in view of Chen et al. (US 2003/0050062).

Regarding Claim 7, Banaei in view of Deshpande teaches all of the claimed limitations recited in Claim 6. Banaei in view of Deshpande does not teach wherein said user information is an ID and a password.

Chen teaches a WLAN in which an ID and password are used for authentication (Section 0043).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to modify WLAN system of Banaei in view of Deshpande with the ID and password of Chen for the purpose of authentication as taught by Chen.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Banaei (US 2004/0203751) in view of Deshpande et al. (US 2002/0176579), as applied to Claim 6 above, and further in view of Billhartz (US 7,082,117).

Regarding Claim 8, Banaei in view of Deshpande teaches all of the claimed limitations recited in Claim 6. Banaei in view of Deshpande does not teach wherein said user terminal informs a connected service provider of an MAC address via said service management server of the contracted service provider of said user terminal, and said wireless LAN equipment of the connected service provider authenticates whether or not to permit connection based on the MAC address.

Billhartz teaches a user terminal informing a connected service provider of an MAC address and said wireless LAN equipment of the connected service provider authenticates whether or not to permit connection based on the MAC address (Column 6 lines 33 – 36).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the WLAN system of Banaei in view of Deshpande with the authentication procedure of Billhartz for the purpose of intrusion detection as taught by Billhartz.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Banaei (US 2004/0203751) in view of Deshpande et al. (US 2002/0176579) in further view of Chen et al. (US 2003/0050062), as applied to Claim 7 above, and further in view of Jones et al. (WO 02/11466).

Regarding Claim 9, Banaei in view of Deshpande and in further view of Chen teaches all of the claimed limitations recited in Claim 7. Banaei in view of Deshpande and in further view of Chen does not teach wherein said information exchange server issues a one-time password and one-time ID valid for a given time, when said user terminal connects to said wireless LAN equipment of the non-contracted service provider, and converts the user's information based on the one-time password and one-time ID.

Jones teaches issuing a one-time password and one-time ID valid for a given time and converting the user's information based on the one-time password and one-time ID (See NOVELTY).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the WLAN system of Banaei in view of Deshpande and in further view of Chen with the password and ID method taught by Jones for the purpose of enabling a user to self-register to gain access to internet services as taught by Jones.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Banaei (US 2004/0203751) in view of Deshpande et al. (US 2002/0176579), as applied to Claim 6 above, and further in view of Labun et al. (US 6,842,621).

Regarding Claim 11, Banaei in view of Deshpande teaches all of the claimed limitations recited in Claim 6. Banaei in view of Deshpande does not teach means for setting a time band for using said wireless LAN equipment for the each of service providers; and means for refusing connection of said user terminal when a time of usage thereof is out of the set time band for using said wireless LAN equipment.

Labun teaches means for setting a time band for using said wireless LAN equipment and means for refusing connection of said user terminal when a time of usage thereof is out of the set time band for using said wireless LAN equipment (Column 9 lines 25 – 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Banaei in view of Deshpande with the time band method of Labun for the purpose of preventing a ping-pong handover that could

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occur if a mobile moves into an edge of a proximity of coverage area of the access point as taught by Labun.

9. Claims 12 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Banaei (US 2004/0203751) in view of Deshpande et al. (US 2002/0176579), as applied to Claim 6 above, and further in view of Kostic et al. (US 2003/0134642).

Regarding Claim 12, Banaei in view of Deshpande teaches all of the claimed limitations recited in Claim 6. Banaei in view of Deshpande does not teach means for ranking the each of service providers in accordance with charge plans on usage of said wireless LAN equipment; and means for restricting connection in order from the service providers with a lower rank, in case that an average communication speed per user falls below a predetermined communication speed or in case that a number of connections to said wireless LAN equipment exceeds a preset number of connections of simultaneously connectable users.

Kostic teaches means for ranking service providers in accordance with charge plans on usage of said wireless LAN equipment (Sections: 0005, 0020, typical hotspots comprise user's contracted with different service providers, priority weighting is used thus, for example, a user with high traffic intensity can be ranked lower than a user with low traffic intensity, said users can be associated with different service providers thus when said users are ranked said service providers are therefore ranked); and means for restricting connection in order from the service providers with a lower rank, in case that an average communication speed per user falls below a predetermined

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communication speed or in case that a number of connections to said wireless LAN equipment exceeds a preset number of connections of simultaneously connectable users (Section 0020).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the WLAN system of Banaei in view of Deshpande with the load balancing method of Kostic for the purpose of reducing network congestion as taught by Kostic.

Regarding Claim 13, Banaei in view of Deshpande does not teach means for ranking the each of users in accordance with charge plans on usage of said wireless LAN equipment; and means for restricting connection in order from the users with a lower rank, in case that an average communication speed per user falls below a predetermined communication speed or in case that a number of connections to said wireless LAN equipment exceeds a preset number of connections of simultaneously connectable users.

Kostic teaches means for ranking users in accordance with charge plans on usage of said wireless LAN equipment (Sections: 0005, 0020, typical hotspots comprise user's contracted with different service providers, priority weighting is used thus, for example, a user with high traffic intensity can be ranked lower than a user with low traffic intensity, said users can be associated with different service providers thus when said users are ranked said service providers are therefore ranked); and means for restricting connection in order from the users with a lower rank, in case that an average communication speed per user falls below a predetermined communication

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speed or in case that a number of connections to said wireless LAN equipment exceeds a preset number of connections of simultaneously connectable users (Section 0020).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the WLAN system of Banaei in view of Deshpande with the load balancing method of Kostic for the purpose of reducing network congestion as taught by Kostic.

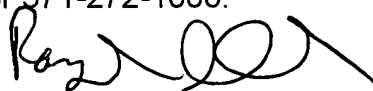
Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

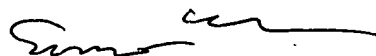
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Raymond S. Dean
September 19, 2006



EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600